

AMENDMENTS TO THE DRAWINGS

The attached sheet(s) of drawings includes changes to Figures 1, 2 and 4. By the amendments to the drawings, power supply 2 is illustrated and identified in these figures.

Attachment: Replacement sheets for Figures 1-4.
 Annotated sheet showing changes to Figures 1, 2 and 4.

REMARKS

Claims 1-24 are pending, of which claims 23 and 24 have been withdrawn from consideration. Claims 1-5 and 7-22 stand rejected. Claim 6 stands objected to. Claims 1, 3, 4, 6-9 and 16 have been amended. Claim 2 has been canceled. In view of the amendments to the claims and the remarks below, Applicants respectfully request that the rejections and objection be withdrawn and that the claims be allowed.

The drawings stand objected to under 37 C.F.R. § 1.83(a) for failing to show every feature of the invention specified in the claims, specifically the biasing means recited in claim 19. In response, Figures 1, 2 and 4 have been amended to show a power supply 2 as a biasing means. Support for this amendment is found in paragraphs [0060], [0067] and [0073] of the application. Paragraph [0060] has also been amended to indicate the reference number of the described power supply. Applicants assert that by this amendment, the biasing means element of claim 19 is illustrated in the drawings, and that no new matter has been added. Accordingly, Applicants respectfully request that the objection be withdrawn.

Claim 16 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In response, claim 16 has been amended to clarify the antecedent basis for the term “facing edges,” to depend from claim 14 instead of from claim 12, and to recite that “the gap between the facing edges is at most 100 μm ,” as supported by paragraph [0018] of the specification. Accordingly, Applicants respectfully request that the rejection be withdrawn and that the claim be allowed.

Claims 1-5, 7-10, 14, 15, 17, 18 and 20-22 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,696,648 to Slayman et al. (“Slayman”). In response, claim 1 has been amended to include the subject matter of claim 2, which has been canceled. Claim 1 now recites an antenna that includes a photoconductive material and a plurality of spaced apart electrodes provided on the photoconductive material. Each electrode has “at least one facing edge which faces a facing edge of an adjacent electrode.” A physical barrier is provided “abutting a facing edge of at least one electrode, said barrier extending to at least the full height of said facing edge.” The “facing edge of the at least one electrode is provided within a recess of the surface of

said photoconductive material, said recess including side-walls formed from said photoconductive material.” A side-wall of the recess is the recited barrier. As explained below, Slayman fails to disclose each of the elements and limitations of amended claim 1. Specifically, Slayman fails to disclose that the “facing edge of the at least one electrode is provided within a recess of the surface of said photoconductive material, said recess including side-walls formed from said photoconductive material, a side-wall of said recess providing said barrier.”

Slayman discloses a two-terminal photoconductor that includes two conducting electrodes separated by a photosensitive barrier or semiconductor material. Slayman, col. 1, l. 65-col. 2, l. 1. The Slayman device includes an active layer 14 and “a pair of interdigitated electrically conducting electrodes 16, 18 formed on a portion of the surface of the active layer.” Slayman, col. 2, ll. 21-27. The photosensitive barrier or semiconductor material is composed of “a passivation layer 20 of semiconductor material having a bandgap greater than that of the semiconductor material comprising the active layer and formed on at least portions of the active layer exposed by the interdigitated electrodes.” Slayman, col. 2, ll. 28-32. Thus, Slayman does not disclose that the side-walls of the recess providing the recited barrier are formed from said photoconductive material. Slayman discloses that the barrier is formed by a different passivation layer that is separate from and that has different properties than the active layer 14 on which the electrodes 16, 18 are formed. For at least this reason, Slayman fails to anticipate claim 1 of the application. Claim 1 is thus allowable over Slayman. Claims 3-5, 7-10, 14, 15, 17, 18 and 20-22 depend from claim 1 and are thus allowable over Slayman for at least the same reasons that claim 1 is allowable. Accordingly, Applicants respectfully request that the rejection be withdrawn and the claims be allowed.

Claims 1, 10, 17 and 18 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,028,971 to Kim et al. (“Kim”). The rejection is traversed.

As explained above, claim 1 has been amended to include the subject matter of canceled claim 2. Original claim 2 does not stand rejected over Kim. In other words, original claim 2 is allowable over Kim. Therefore, amended claim 1, which incorporates the subject matter of claim 2, is also allowable over Kim. Claims 10, 17 and 18, which depend from claim 1, are allowable over

Kim for at least the same reasons that claim 1 is allowable. Accordingly, Applicants respectfully request that the rejection be withdrawn and that the claims be allowed.

Claims 1, 17, 18 and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,371,399 to Burroughes et al. ("Burroughes"). The rejection is traversed.

As explained above, claim 1 has been amended to include the subject matter of canceled claim 2. Original claim 2 does not stand rejected over Burroughes. Thus, original claim 2 is allowable over Burroughes. Therefore, amended claim 1, which incorporates the subject matter of claim 2, is also allowable over Burroughes. Claims 17, 18 and 20, which depend from claim 1, are allowable over Burroughes for at least the same reasons that claim 1 is allowable. Accordingly, Applicants respectfully request that the rejection be withdrawn and that the claims be allowed.

Claims 1 and 19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Japanese Patent No. 11-243217 to Yamamoto et al. ("Yamamoto"). The rejection is traversed.

As explained above, claim 1 has been amended to include the subject matter of canceled claim 2. Original claim 2 does not stand rejected over Yamamoto. Thus, original claim 2 is allowable over Yamamoto. Therefore, amended claim 1, which incorporates the subject matter of claim 2, is also allowable over Yamamoto. Claim 19, which depends from claim 1, is allowable over Yamamoto for at least the same reasons that claim 1 is allowable. Accordingly, Applicants respectfully request that the rejection be withdrawn and that the claim be allowed.

Claims 11-13 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Slayman or Kim or Burroughes. The rejection is traversed.

Claims 11-13 and 16 depend from claim 1. Because, as explained below, neither Slayman, Kim nor Burroughes teaches or suggests each element and limitation of claim 1, claims 11-13 and 16 are allowable over each of the cited references. Specifically, none of Slayman, Kim or Burroughes teach or suggest that facing edges of the electrodes are "provided within a recess of

the surface of said photoconductive material, said recess including side-walls formed from said photoconductive material, [and] a side-wall of said recess providing said barrier.”

Slayman teaches a photosensitive barrier or semiconductor material composed of “a passivation layer 20 of semiconductor material having a bandgap greater than that of the semiconductor material comprising the active layer and formed on at least portions of the active layer exposed by the interdigitated electrodes.” Slayman, col. 2, ll. 28-32 (emphasis added). Thus, Slayman does not teach or suggest that the side-walls of the recess providing the recited barrier are formed from said photoconductive material. In fact, Slayman teaches away from the recitations of claim 1. Slayman teaches that the barrier is formed by a different passivation layer that is separate from and that has different properties than the active layer 14 on which the electrodes 16, 18 are formed. For at least this reason, Slayman fails to render claim 1, and hence claims 11-13 and 16, unpatentable.

Kim discloses a photoconductive switch with patterned electrodes. Kim, Abstract. However, Kim does not teach or suggest that facing edges of the electrodes are “provided within a recess of the surface of said photoconductive material, said recess including side-walls formed from said photoconductive material.” There is no suggestion in Kim of a side-wall of the recess as the recited barrier. For at least these reasons, Kim fails to render claim 1, and hence claims 11-13 and 16, unpatentable.

Burroughes relates to a compound semiconductor device with a photoconductive layer and a pair of interdigitated electrodes. Burroughes, col. 9, ll. 3-25. However, it is apparent from Figure 2B of Burroughes that Burroughes does not teach or suggest that facing edges of the electrodes are “provided within a recess of the surface of said photoconductive material, said recess including side-walls formed from said photoconductive material.” In Burroughes, there is no recess within the surface of the photoconductive material. Hence, there is no teaching of a side-wall of the recess being used as the recited barrier. For at least these reasons, Burroughes fails to render claim 1, and hence claims 11-13 and 16, unpatentable.

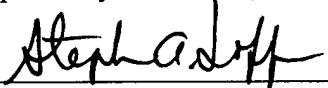
Claims 11-13 and 16 are therefore allowable over Slayman, Kim and Burroughes. Applicants respectfully request that the rejection be withdrawn and the claims be allowed.

Claim 6 stands objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants are grateful for the Examiner's finding of allowable subject matter in claim 6. However, because Applicants believe that claim 1 is allowable, and because claim 6 depends from claim 1, Applicants also believe that claim 6 is allowable for at least the same reasons that claim 1 is allowable. Accordingly, Applicants respectfully request that the objection be withdrawn and that the claim be allowed.

In view of the above amendment, Applicants submit that the pending application is in condition for allowance.

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Attachments